

### Abstract

An amorphous hard carbon film has low friction coefficient from the beginning of sliding, when the metal oxide is contained in the film. The adhesion of the film to the substrate is also improved due to the low temperature treatment of RF plasma enhanced  
5 CVD method. This film can be applied to many sliding members, e.g., a piston ring, a vane of compressor and a plunger of fuel injection pump, used under severe condition.

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